Characterization Laboratory Analysis

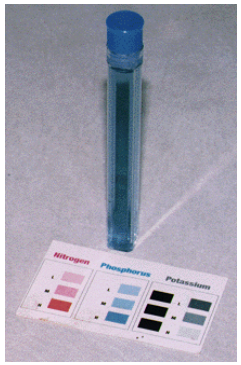
You will perform four sets of measurements in the laboratory on the samples you collected in the field:

Bulk Density

Particle-size Distribution

pH

Soil Fertility



These observations will help the GLOBE Scientists understand more about the properties of soil.

Instruments for Laboratory Analysis

Drying and Sieving

- Newspapers or plastic plates
- #10 Sieve (2 mm mesh openings)
- Liter-sized bags, jars, or containers for storing soil samples and extra soil
- Rubber gloves
- Drying oven or microwave (not shown)
- Rolling pin, hammer, or other utensil for crushing peds and separating particles

Instruments for Laboratory Analysis

Testing for Bulk Density

- Oven-dry soil
- Balance
- 100 mL graduated cylinder and water (not distilled) to determine the volume of rocks
- Soil Bulk Density Data Work Sheet

Instruments for Laboratory Analysis

Testing for Particle-Size Distribution

- Dry, sieved soil
- One 500 mL Graduated Cylinder (clear plastic)
- 250 mL or larger, beaker
- Squirt bottle for washing soil out of beaker
- Hydrometer
- Thermometer
- Plastic Wrap (or other cover for cylinder)
- Particle-Size Distribution Data Work Sheet

Instruments for Laboratory Analysis

Testing for pH

- Dry, sieved soil
- Three 100 mL Beakers
- Balance
- pH paper, pen or Meter
- Glass stirrers or spoon
- Distilled Water
- 100 mL Graduated Cylinder
- Soil pH Data Work Sheet

Instruments for Laboratory Analysis

Testing for Soil Fertility

- Dry, sieved soil
- Distilled water
- Teaspoon
- Cup or test tube rack to hold tubes
- Soil Fertility Data Work Sheet
- Soil Fertility Kit with reagents to measure N, P, and K